REPORT OF
EXCAVATION OF IMPACTED SOIL

THE PRESIDIO
SAN FRANCISCO, CALIFORNIA

BUILDING 215, LINCOLN BOULEVARD

GGTR Job No. 8336
November 25, 2003

Prepared for:

The Presidio Trust
Building 1750, Lincoln Boulevard
The Presidio
San Francisco, CA 94129

TABLE OF CONTENTS

COVER SHEET

TABLE OF CONTENTS

1. SITE LOCATION 1

2. SITE HISTORY/PREVIOUS INVESTIGATIONS 1

3. EXCAVATION OF IMPACTED SOIL 3

4. EXCAVATION AREA AND SOIL CONDITION 3

5. EXCAVATION AREA SAMPLING 3

6. EXCAVATION AREA REMOVAL SAMPLE RESULTS 5

7. SITE RESTORATION 5

8. IMPACTED SOIL WASTE MANAGEMENT 5

9. CONCLUSION/SUMMARY 6

10. REFERENCES 6

FIGURES: Figure 1: Site Location Map
Figure 2: Site Plan

TABLES: Table 1: Sampling and Analytical Summary - TPH/BTEX Analysis
Table 2: Sampling and Analytical Summary - VOCs Analysis

APPENDIX A: Photographs
APPENDIX B: Excavation Clearance Order
APPENDIX C: Certificates of Analysis, Chain of Custody
APPENDIX D: Contract for Landfill Services, Waste Manifests, Weight Tickets

1. SITE LOCATION

The subject site is located at Building 215 Lincoln Boulevard, at the north corner of the intersection of Graham Street and Lincoln Boulevard, within The Presidio of San Francisco, California. Figure 1 attached, *Site Location Map*, shows the general site vicinity. The actual location of the excavation area as well as the subject address and nearby streets is shown on the attached Figure 2. Photographs of the project are shown in Appendix A (GGTR Figures 3A through 3B).

2. SITE HISTORY/ PREVIOUS INVESTIGATIONS

According to the Presidio Trust, the following information is excerpted from the recently released *Presidio Trust Revised Feasibility Study Main Installation Sites, March 2003.*

Building 215 has most recently been used to house a bank automatic teller machine, but has also served as the Post Re-Enlistment Center and may have had other uses. According to historical records, the Army removed six buildings from the vicinity of Building 215 between 1973 and 1988. The area once occupied by these buildings is now a parking lot located to the north and east of Building 215. As presented in the Army's FS (Dames & Moore, 1997), the site was once the location of a gas station and vehicle maintenance facility. Underground storage tanks ("USTs") associated with the site were removed in 1989. The Trust reviewed a quartermaster report dated 1940 that indicated two hydraulic lifts were present in the southern portion of the building and that an automobile paint room was appended to the northern end of the building in 1940. It is not certain that the quartermaster report building is the same as current Building 215.

Army files obtained by the Trust indicate that the Army collected soil samples from borings SSA and SSB prior to removal of the USTs. In February 1989, the Army removed two steel 3,500-gallon USTs. These were reportedly used to store leaded gasoline. Approximately 100 gallons of residual liquids from the tanks and 360 cubic yards of soil were also removed and disposed offsite. Four soil samples (NE, NW, SE, SW) were collected from 8 feet below ground surface ("bgs") around the open excavation and analyzed for benzene, toluene, ethyl benzene, xylenes ("BTEX") and total petroleum hydrocarbons ("TPH") as gas and diesel. None of these compounds were detected above laboratory reporting limits. Approximately 360 cubic yards of backfill materials were imported to the site to fill the excavation.

According to records obtained by the Trust, four soil samples were collected below the tanks after removal. Although BTEX was not detected in the soil samples, hydrocarbons resembling Stoddard Solvent were detected at concentrations ranging from 40 to 180 mg/kg in three of the four soil samples.

As part of the RI, the Army collected ten soil samples at depths ranging from 5 to 41.5 feet bgs from five borings completed at the Building 215 Area (215SO01 through 215SO03, 215GW02, and 215GW03). Soil samples obtained from the borings were analyzed for volatile organic compounds ("VOCs"), SVOCs, and PCBs and pesticides.

None of these chemicals were detected at concentrations greater than laboratory analytical method reporting limits. However, soil samples were not analyzed for metals or petroleum hydrocarbons, which are PCOCs likely to have been used or generated, based upon the Building 215 Area use history. In addition, only one boring was located in the immediate proximity of the former tanks. Borings locations completed as monitoring wells include 215GW01, 215GW02, and 215GW03.

The lithologic log for the Army's soil boring 215SO02 indicates that gasoline odors were noted in soil removed from the boring at a depth of 15 feet bgs and that elevated readings were obtained with a photo ionization detector ("PID") used to screen the soil at this depth. A PID is used to record emissions of volatile chemicals from soil. Elevated PID readings may indicate the presence of VOCs or volatile fractions of petroleum hydrocarbons in soil. However, the soil sample collected at 15.5 feet bgs was not analyzed for petroleum hydrocarbons.

In April 2001 during a routine maintenance activity, a Trust utility crew encountered odorous and visibly stained soil in a trench running north-south adjacent to Building 215. The utility trench was north and east of the area that was potentially impacted by the former tanks. Impacted soil was not expected to be encountered in this area. The Trust collected samples 215-1 and 215-2 from the trench at the ends of the visible zone of impacted soil. Fuel oil was detected in one soil sample at a concentration of 8,900 mg/kg (above the recreational human health cleanup level of 4,500 mg/kg established in the RWQCB's Order No. 96-070 also known as the Site Cleanup Requirements or SCRs). The Trust conducted additional characterization at the Building 215 Area in November 2001. The Trust collected and analyzed samples for selected metals, VOCs, SVOCs, and petroleum hydrocarbon compounds in the additional investigation. Based on the analytical results from the November 2001 sampling event, the soil at Building 215 does not appear to contain significant concentrations of PCOCs or COCs beyond the fuel oil identified by the Trust in April 2001.

Fuel oil has been identified as the COC in soil at the Building 215 Area. Although previous samples collected at Building 215 Area did not contain elevated concentrations of petroleum hydrocarbon compounds, initial reports from soil samples collected in the trench in April 2001 indicate that petroleum hydrocarbons are present in the subsurface. Based on the November 2001 sampling event, the extent of the fuel oil detected in April 2001 appears to be extremely limited; therefore the Trust planned to remove residual hydrocarbons above applicable cleanup levels in and near the utility trench as part of the Petroleum Program. This work was performed in February 2003. No further action is recommended for soil at the Building 215 Area as part of the Presidio Trust Revised FS Report.

Based on the analytical results of the exploratory trench excavation soil sample, and following written approval to conduct a soil removal from both RWQCB and DTSC, The Presidio Trust contracted Golden Gate Tank Removal, Inc. (GGTR) of San Francisco, California to re-excavate and dispose of the hydrocarbon-affected soil in the direct vicinity of the former trench area and perform confirmation soil sampling to assess the lateral and vertical extant of the potentially impacted soil. The agreed upon soil contaminants to be investigated prior to site closure were the following:

TPH fuel oil (C24-C36). In addition, the Trust was to sample soil and analyze for the following chemicals during site remediation and closure activities:

1. TPH- gas (by EPA 8015M)
2. TPH-diesel (by EPA 8015M)
3. Chlorinated volatile organic compounds (VOCs, including BTEX) (by EPA 8260)
4. Semi volatile organic compounds (SVOCs) including polynuclear aromatic hydrocarbons (PAHs) (by EPA 8270)

3. EXCAVATION OF IMPACTED SOIL

GGTR applied for and obtained permits from The Presidio Trust and OSHA. All site work was performed in accordance with state and local regulations, and pursuant to the Presidio Trust's Quality Assurance Project Plan (QAAP). On February 11, 2003, The Presidio Trust issued Excavation Clearance No. 2193, authorizing GGTR to proceed with the proposed site excavation activities. A copy of the Excavation Clearance order is in Appendix B.

On February 18, 2003, GGTR mobilized its equipment and began work on the project. Using a mechanical backhoe, GGTR initially excavated the top two feet of clean soil and temporarily stockpiled the soil. The clean surface soil showed no visible signs of petroleum hydrocarbon impact. However, GGTR observed that the soil beneath this level was discolored with a moderate petroleum odor.
GGTR subsequently excavated up to approximately 9 bgs, removing and separately stockpiling the impacted soil on plastic sheeting, adjacent to the excavation. The soil was then transferred into a steel storage container. Soil below this depth was observed to be clean with no signs of contamination. GGTR removed approximately 48 tons of impacted soil from the excavation area. The lateral dimensions of the excavation extended 22 feet in the northeast-southwest direction (parallel to Building 215), and approximately 7 feet in the northwest-southeast direction. The stockpiled soil and excavation site was covered with plastic sheeting and secured with chain-link fence panels.

4. EXCAVATION AREA AND SOIL CONDITION

The soil texture observed during the excavation activities was a brown/yellow clayey silt and sand mixture. The soil at the bottom of the excavation area was also a brown/yellow clayey silt and sand mixture. As discussed above, discoloration of the soil was observed throughout the lateral limits of the excavation between approximately 2 and 9 bgs, and was removed and stockpiled onsite. No groundwater or infiltration water was encountered during the excavation activities.

5. EXCAVATION AREA SAMPLING

Following the removal of the impacted soil, GGTR, under the direction of Mr. Chris Nelson of The Presidio Trust, collected representative soils samples from the bottom sidewalls and approximate center of the excavation between approximately 7 and 9 bgs.

The sample locations and sample identification numbers are shown on the attached Figure 2.

GGTR initially hand augured approximately 1 to 2 feet below the desired sample location to minimize any non-representative soil or excavation slough material. GGTR then collected each soil sample by manually driving a 2-inch-diameter, brass tube-lined, remote core sampler approximately 6 inches into the relatively undisturbed native soil. GGTR also collected one 4-point composite sample from the stockpile containing the impacted excavation soil. The retained soil samples were sealed with Teflon sheeting and plastic end caps, appropriately labeled, and stored in a cooler chilled to approximately 4 degrees (°) Centigrade.

All soil samples were transported under formal chain-of-custody protocol to North State Labs (NSL) in South San Francisco, California for the required analyses. The attached Table 1, *Sampling and Analytical Summary*, summarizes the sample identification, depth, and location of each sample collected from the excavation.

6. EXCAVATION AREA REMOVAL SAMPLE RESULTS

The excavation and stockpile soil samples were analyzed for Total Petroleum Hydrocarbons as Gasoline [Gasoline C7-C12; SW8020F], TPH as Diesel [Diesel C12-C24 (SGCU); CATFH], TPH as Fuel Oil [Fuel Oil C24-C36 (SGCU); CATFH], Benzene, Toluene, Ethylbenzene and Xylene [BTEX; SW8020F], Volatile Organic Compounds [VOC; GC/MS Method 8260], and Semi-Volatile Organic Compounds [SVOC; GC/MS Method 8270]. The stockpile composite soil sample was additionally analyzed for Total Lead [SW6010B]. As per The Presidio Trust's QAPP, GGTR directed NSL to pass all Diesel and Fuel Oil sample extracts through a packed silica gel column prior to analysis (EPA Method 3630B with no solvent exchanges) and report all soil sample results on a dry weight basis only. In addition, the Percent Moisture (AG7-2.2) was determined for each sample.

The attached Table 1 includes the analytical results of the excavation and stockpile soil samples. "ND" indicates Non-Detectable results below the laboratory reporting limit. The Presidio Trust's cleanup levels for soil as reported in *Development of Presidio-wide Cleanup Levels for Soil, Sediment, Groundwater and Surface Water* (Presidio Trust October 2002) are included in Table 1. The laboratory Certificates of Analysis and associated Chain of Custody Record are in Appendix C.

7. SITE RESTORATION

By March 10, 2003, the excavation was backfilled with clean imported soil provided by The Presidio Trust clean stockpiled overburden soil from the adjacent excavation. The soil was compacted in accordance with the requirements of The Presidio Trust. GGTR subsequently prepared the excavation surface for grass re-seeding to restore the original site conditions.

8. IMPACTED SOIL WASTE MANAGEMENT

Following receipt of the analytical results of the composite stockpile soil sample, GGTR profiled the soil waste to Allied Waste's Forward Landfill facility in Manteca, California. Allied Waste subsequently approved the soil for disposal under Waste Acceptance No. 3012 (February 26, 2003).

On March 4 and 10, 2003, GGTR in collaboration with Poli Trucking of San Bruno, California removed the stockpiled soil from the site (48.34 tons according to the certified weight certificates) and transported it to the Forward Class II Landfill facility in Manteca, California. The soil was transported under Non–Hazardous Waste Manifest Nos. 50845, 50862, and 50864. A copy of each manifest and associated weight ticket is included in Appendix D.

9. DISCUSSION

Following the removal of the top two feet of clean surface soil, approximately 48 tons of impacted soil was removed from the excavation and properly disposed of at a State-licensed, Class II landfill facility. The excavation cavity was subsequently backfilled and compacted, and prepared for restoration to original site conditions. The soil sample results indicated that the remaining concentrations of level of Gasoline, Diesel, and Fuel Oil hydrocarbon constituents were non-detectable and that the detectable concentrations of VOCs and SVOCs were insignificant or below the applicable cleanup levels that warrant further action. No groundwater or infiltration water was noted in the excavation during the soil removal or sampling activities.

Any additional excavation or investigation activities will be addressed by The Presidio Trust representative and or the regulatory oversight representative.

10. REFERENCES

- Erler and Kalinowski, Inc., March, 2003. Presidio Trust Revised Feasibility Study, Main Installation Sites. San Francisco, California.

TABLE & FIGURES

REPORT OF
EXCAVATION OF IMPACTED SOIL

BUILDING 215, LINCOLN BOULEVARD
THE PRESIDIO
SAN FRANCISCO, CALIFORNIA

GGTR Job No. 8336
November 25, 2003

APPENDIX A

PHOTOGRAPHS

REPORT OF
EXCAVATION OF IMPACTED SOIL

BUILDING 215, LINCOLN BOULEVARD
THE PRESIDIO
SAN FRANCISCO, CALIFORNIA

GGTR Job No. 8336
November 25, 2003

APPENDIX B

EXCAVATION CLEARANCE ORDER

REPORT OF
EXCAVATION OF IMPACTED SOIL

BUILDING 215, LINCOLN BOULEVARD
THE PRESIDIO
SAN FRANCISCO, CALIFORNIA

GGTR Job No. 8336
November 25, 2003

APPENDIX C

LABORATORY REPORTS AND CHAIN OF CUSTODY

REPORT OF EXCAVATION OF IMPACTED SOIL

BUILDING 215, LINCOLN BOULEVARD THE PRESIDIO SAN FRANCISCO, CALIFORNIA

GGTR Job No. 8336
November 25, 2003

APPENDIX D

SOIL DISPOSAL MANIFESTS
WEIGHT TICKETS

REPORT OF
EXCAVATION OF IMPACTED SOIL

BUILDING 215, LINCOLN BOULEVARD
THE PRESIDIO
SAN FRANCISCO, CALIFORNIA

GGTR Job No. 8336
November 25, 2003

TABLE 1
SAMPLING AND ANALYTICAL SUMMARY - TPH/BTEX ANALYSIS
FEBRUARY 2003
Building 215, Lincoln Boulevard Presidio of San Francisco

Sample ID & (Location)	Sample Depth (fbgs)	Gasoline C7-C12 (mg/kg)	Diesel C12-C24 (mg/kg)	Fuel Oil C24-C36 (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)
215EX01[9'0] (SW Excavation)	9	ND<0.5	ND<1	ND<10	ND <0.005	ND <0.005	ND <0.005	ND <0.010
215EX02[9'0] (SE Excavation)	9	ND<0.5	ND<1	ND<10	ND <0.005	ND <0.005	ND <0.005	ND <0.010
215EX03[8'0] (NW Excavation)	8	ND<0.5	ND<1	ND<10	ND <0.005	ND <0.005	ND <0.005	ND <0.010
215EX04[7'0] (NE Excavation)	7	ND<0.5	ND<1	ND<10	ND <0.005	ND <0.005	ND <0.005	ND <0.010
215EX05[8'5"] (Cntr. Excavation)	8.5	ND<0.5	ND<1	ND<10	ND <0.005	ND <0.005	ND <0.005	ND <0.010
021803DUP (SE Excavation)	9	ND<0.5	ND<1	ND<10	ND <0.005	ND <0.005	ND <0.005	ND <0.010
215SP06 * (Stockpile)	NA	4.000 [1]	84 [2]	1,770	ND <0.005	ND <0.005	ND <0.005	ND <0.010
Lab Reporting Limit		0.5	1	10	0.005	0.005	0.005	0.010
Applicable Cleanup Goals		2,400	3,200	4,500	1.5	1,200	1,900	2,500

Table Notes: Gasoline Range Hydrocarbons (C7-C12) by SW8020F
Diesel- and Fuel Oil-Range Hydrocarbons by CATFH w/ Silica Gel Cleanup
BTEX = Benzene, Toluene, Ethyl benzene, and Xylenes (Total) by SW8020F
Fbgs = feet below grade surface; mg/kg = milligrams per kilogram (equivalent to parts per million)
Mg/kg = milligrams per kilogram (equivalent to parts per million)
ND = Non Detect (concentration below laboratory reporting limit)
* = Sample also analyzed for Total Lead by SW6010B (12.9 mg/kg) and Semi-Volatile Organic Compounds by GC/MS Method 8270, with the following detectable concentrations in mg/kg: 0.087 naphthalene, 0.272 2-methylnaphthalene, 0.124 phenanthrene, 0.187 pyrene, and 0.090 chrysene
All samples additionally analyzed for Percent Moisture with the following respective percentages (%):
14.17, 14.25, 14.10, 15.42, 14.25, 14.71, and 12.93
All samples additionally analyzed for Volatile Organic Compounds by GC/MS Method 8260 [SEE TABLE 2]
[1] = Does not match typical gasoline pattern shown on laboratory chromatogram
[2] = Does not match typical diesel pattern shown on laboratory chromatogram

TABLE 2
SAMPLING AND ANALYTICAL SUMMARY - VOC ANALYSIS
FEBRUARY 2003

Building 215, Lincoln Boulevard Presidio of San Francisco

Sample ID & (Location)	Sample Depth (fbgs)	Detectable VOCs (mg/kg)				
		1,2,3-TCB	1,2,4-TCB	1,3,5-TMB	1,2,4-TMB	Naphthalene
215EX01[9'0] (SW Excavation)	9	0.013	0.008	ND<0.005	ND<0.005	0.025
215EX02[9'0] (SE Excavation)	9	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.010
215EX03[8'0] (NW Excavation)	8	ND<0.005	ND<0.005	0.015	ND<0.005	0.038
215EX04[7'0] (NE Excavation)	7	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.010
215EX05[8'5"] (Cntr. Excavation)	8.5	ND<0.005	ND<0.005	0.037	0.011	0.039
021803DUP (SE Excavation)	9	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.010
Lab Reporting Limit		0.005	0.005	0.005	0.005	0.010
Applicable Cleanup Goals		15 [1]	15 [1]	1.7 [2]	3.9 [2]	2,200 [3]

Table Notes: VOCs = Volatile Organic Compounds by GC/MS Method 8260
Fbgs = feet below grade surface; mg/kg = milligrams per kilogram (equivalent to parts per million)
Mg/kg = milligrams per kilogram (equivalent to parts per million)
ND = Non Detect (concentration below laboratory reporting limit)
1,2,3-TCB = 1,2,3-trichlorobenzene
1,2,4-TCB = 1,2,4-trichlorobenzene
1,3,5-TMB = 1,3,5-trimethylbenzene
1,2,4-TMB = 1,2,4-trimethylbenzene
[1] = Soil Cleanup Levels for the Protection of Human Health (Recreational/Residential/ Industrial, as per RBSLs)
[2] = Soil Cleanup Levels for the Protection of Human Health (Residential, as per TRUST C/U Document)
[3] = Soil Cleanup Levels for the Protection of Human Health (Recreational, as per TRUST C/U Document)